Chapter Seven: Financial and Implementation Plan

With analysis of Utah's future airport system needs completed, the costs to implement the recommendations and the steps associated with implementation can be determined. This chapter presents the financial needs of the recommended system, policy issues related to implementing recommendations and specific action items for the stakeholders in the system.

DEVELOPMENT COSTS

Costs that are discussed in the final section of this chapter are those that may be incurred to improve the performance of the system to meet identified targets, to resolve deficiencies noted for facility and service objectives, and to implement current capital improvement plans (CIPs). The scope of this plan does not allow detailed cost estimates to be developed, only planning level estimates for determining the general financial needs of the entire airport system. Costs were estimated for each airport in the system for three planning periods: short-term (0-5 years), mid-term (6-10 years), and long-term (11-20 years). The costs presented are in constant 2007 dollars and do not account for inflation. The individual airport costs and a summary of the Utah Continuous Airport System Plan's (UCASP) findings related to each airport are presented in **Appendix D**.

To develop costs shown in this chapter, average unit costs from recently completed projects were used. These costs are not reflective of airport-specific conditions, which might cause costs to be higher, or in some instances lower. It is most likely that cost estimates provided in this chapter are conservative and that actual costs will exceed these estimates. It is important to note that inclusion of a project in this document does not commit state or federal funding for that project. It is the role of the airport master plan to develop detailed cost estimates for airport-specific projects noted in this document and provide justification and sufficient environmental evaluation prior to implementation of the projects.

To fully fund all projects identified by this plan, to meet deficiencies related to performance measures, and planned capital improvement projects that have been identified by study airports, an estimated $752 million in federal, state, and local funds would be needed over the next 20 years. **Table 7-1** reflects these costs by airport classification. As previously mentioned, costs provided in this section have not been developed to the level of detail that would result from master planning, a financial feasibility study, or an engineering study. The costs discussed in this section provide the Utah Division of Aeronautics (UDOA) with an understanding of the general cost range that could be associated with achieving higher compliance ratings for each of the performance measures identified in this plan. Costs shown in Table 7-1 fund necessary pavement maintenance projects identified by the UDOA pavement maintenance program. The costs also include funds to construct the new St. George airport.

Table 7-1
Total Development Costs by Airport Classification (In Millions)

AIRPORT CLASSIFICATION	ESTIMATED COSTS
International Airports	$200.63
National Airports	$210.78*
Regional Airports	$245.58
Community Airports	$65.03
Local Airports	$30.18
Total System	**$752.20**

Source: Wilbur Smith Associates, 2007
Note: Estimated costs may not equal sum due to rounding.
*Includes $190 million for the new St. George airport

Table 7-2 identifies estimated costs by project type. It is worth noting that the costs shown in Table 7-2 will continually change over time. It is difficult to determine specific project costs when projects occur beyond the short-term planning horizon. Therefore, estimated costs for the long-term planning horizon are likely to be significantly higher.

Table 7-2
Total Development Costs by Airport Specific Project Types

PROJECT TYPE	Short-Term 1-5 Year	Mid-Term 6-10 Year	Long-Term 11-20 Year	TOTAL ESTIMATED COST
Runways	$129,536,508	$138,225,095	$35,043,071	$302,804,674
Taxiways	$34,065,584	$33,305,587	$1,457,236	$68,828,407
Land Acquisition	$38,254,332	$31,519,736	$100,613,090	$170,387,158
Pavement Maintenance	$66,476,154	$58,630,516	$1,845,313	$126,951,983
NAVAIDs/Lighting/Approaches	$2,140,665	$2,250,494	$986,843	$5,378,002
Terminal Area[1]	$34,098,084	$28,656,075	$3,199,704	$65,953,863
Airside Development Subtotal	**$304,571,327**	**$292,587,503**	**$143,145,256**	**$740,304,087**
Airport Equipment/Equipment Bldg	$2,552,632	$394,736	$0	$2,947,368
Security/Fencing[2]	$827,571	$197,369	$0	$1,024,940
Obstruction Removal	$1,296,010	$125,000	$0	$1,421,010
Planning/Environmental	$4,947,369	$1,381,580	$164,474	$6,493,423
Landside Development Subtotal	**$9,623,582**	**$2,098,685**	**$164,474**	**$11,886,741**
Total Development Costs	**$314,194,909**	**$294,686,188**	**$143,309,730**	**$752,190,828**

Source: Wilbur Smith Associates, 2007
Note 1: Terminal area costs include terminal buildings, aprons, hangars, fuel, auto parking spaces, access road improvements, and miscellaneous utilities.
2: Fencing construction and/or upgrade costs could not be determined without on-site inspection and therefore have not been included in the totals above.

As previously mentioned, projects and costs will continue to change over the 20-year planning period. While the long-term estimated costs account for 19 percent of the total development estimate over the 20-year period, they are conservative estimates and it is

likely that this planning horizon will experience actual costs far in excess of what is estimated.

Tables 7-3 through **7-6** provide cost estimates by airport role and by project type over the planning horizons. These cost estimates are generally reflective of the cost that could be incurred over the next 20 years to enable airports in Utah to meet facility and service objectives established by this study, as well as address airport-specific CIP projects. It is important to note that not all projects listed are eligible for Federal Aviation Administration (FAA) or state funding.

Table 7-3
Total Development Costs by
Airport Project Type and Airport Classification (In Millions)

PROJECT TYPE	ESTIMATED COST					
	INTERNATIONAL AIRPORTS	NATIONAL AIRPORTS	GA REGIONAL AIRPORTS	GA COMMUNITY AIRPORTS	GA LOCAL AIRPORTS	TOTAL
Airside Development	$199.13	$210.78*	$240.33	$62.19	$27.88	$740.3
Landside Development	$1.5	$0	$5.3	$3.0	$2.2	$11.9
Total	**$200.63**	**$210.78**	**$245.60**	**$65.19**	**$30.08**	**$752.20**

*Includes $190 million for construction of the new St. George Airport
Source: Wilbur Smith Associates, 2007

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Table 7-4
Short-Term (2007-2012) Development Costs by Airport Project Type and Airport Classification

PROJECT TYPE	ESTIMATED COST					
	INTERNATIONAL AIRPORTS	NATIONAL AIRPORTS	GA REGIONAL AIRPORTS	GA COMMUNITY AIRPORTS	GA LOCAL AIRPORTS	TOTAL
Runways	$16,112,167	$95,000,000	$18,424,341	$0	$0	$129,536,508
Taxiways	$17,312,167	$0	$12,884,256	$3,474,425	$394,736	$34,065,584
Land Acquisition	$29,000,000	$0	$7,611,841	$1,642,491	$0	$38,254,332
Pavement Maintenance	$17,312,167	$702,629	$32,553,399	$8,896,836	$7,011,123	$66,476,154
NAVAIDs/ Lighting	$0	$0	$1,482,133	$457,238	$201,294	$2,140,665
Terminal Area[1]	$19,827,000	$6,134,869	$7,340,493	$400,986	$394,736	$34,098,084
Airside Development Subtotal	**$99,563,501**	**$101,837,498**	**$80,296,463**	**$14,871,976**	**$8,001,889**	**$304,571,327**
Airport Equipment/ Equipment Buildings	$1,500,000	$0	$263,158	$789,474	$0	$2,552,632
Security/ Fencing[2]	$0	$0	$197,368	$432,834	$197,369	$827,571
Obstruction Removal	$0	$0	$842,105	$453,905	$0	$1,296,010
Planning/ Environmental	$0	$0	$2,401,316	$572,369	$1,973,684	$4,947,369
Landside Development Subtotal	**$1,500,000**	**$0**	**$3,703,947**	**$2,248,582**	**$2,171,053**	**$9,623,582**
Total	**$101,063,501**	**$101,837,498**	**$84,000,410**	**$17,120,558**	**$10,172,942**	**$314,194,909**

Source: Wilbur Smith Associates, 2007

Note: 1: Terminal area costs include terminal buildings, aprons, hangars, fuel, auto parking spaces, access road improvements, and miscellaneous utilities.
2: Fencing construction and/or upgrade costs could not be determined without on-site inspection and therefore have not been included in the totals above.

Table 7-5
Mid-Term (2013-2017) Development Costs by Airport Project Type and Airport Classification

PROJECT TYPE	ESTIMATED COST					
	INTERNATIONAL AIRPORTS	NATIONAL AIRPORTS	GA REGIONAL AIRPORTS	GA COMMUNITY AIRPORTS	GA LOCAL AIRPORTS	TOTAL
Runways	$16,112,167	$95,000,000	$16,757,664	$10,355,264	$0	$138,225,095
Taxiways	$17,312,167	$5,921,053	$6,720,394	$3,351,973	$0	$33,305,587
Land Acquisition	$29,000,000	$0	$2,519,736	$0	$0	$31,519,736
Pavement Maintenance	$17,312,167	$702,629	$28,506,781	$5,636,148	$6,472,791	$58,630,516
NAVAIDs/Lighting	$0	$687,500	$592,500	$970,494	$0	$2,250,494
Terminal Area[1]	$19,827,000	$0	$7,547,101	$162,500	$1,119,474	$28,656,075
Airside Development Subtotal	**$99,563,500**	**$102,311,181**	**$62,644,176**	**$20,476,378**	**$7,592,265**	**$292,587,503**
Airport Equipment/Equipment Buildings	$0	$0	$394,736	$0	$0	$394,736
Security/Fencing[2]	$0	$0	$0	$197,369	$0	$197,369
Obstruction Removal	$0	$0	$0	$125,000	$0	$125,000
Planning/Environmental	$0	$0	$986,843	$394,738	$0	$1,381,580
Landside Development Subtotal	**$0**	**$0**	**$1,381,579**	**$717,106**	**$0**	**$2,098,685**
Total	**$99,563,500**	**$102,311,181**	**$64,025,755**	**$21,193,484**	**$7,592,265**	**$294,686,188**

Source: Wilbur Smith Associates, 2007

Note: 1: Terminal area costs include terminal buildings, aprons, hangars, fuel, auto parking spaces, access road improvements, and miscellaneous utilities.
2: Fencing construction and/or upgrade costs could not be determined without on-site inspection and therefore have not been included in the totals above.

Table 7-6
Long-Term (2018-2027) Development Costs by Airport Project Type and Airport Classification

PROJECT TYPE	ESTIMATED COST					
	INTERNATIONAL AIRPORTS	NATIONAL AIRPORTS	GA REGIONAL AIRPORTS	GA COMMUNITY AIRPORTS	GA LOCAL AIRPORTS	TOTAL
Runways	$0	$0	$20,623,899	$6,693,249	$0	$27,317,148
Taxiways	$0	$0	$875,000	$582,236	$0	$1,457,236
Land Acquisition	$0	$0	$0	$0	$986,843	$986,843
Pavement Maintenance	$0	$6,629,558	$73,455,798	$18,498,618	$9,755,041	$108,339,014
NAVAIDs/Lighting	$0	$0	$0	$667,500	$1,144,063	$1,811,563
Terminal Area[1]	$0	$0	$2,431,579	$398,750	$403,125	$3,233,454
Airside Development Subtotal	**$0**	**$6,629,558**	**$97,386,275**	**$26,840,353**	**$12,289,071**	**$143,145,256**
Airport Equipment/Equipment Bldg	$0	$0	$0	$0	$0	$0
Security/Fencing[2]	$0	$0	$0	$0	$0	$0
Obstruction Removal	$0	$0	$0	$0	$0	$0
Planning/Environmental	$0	$0	$164,474	$0	$0	$164,474
Landside Development Subtotal	**$0**	**$0**	**$164,474**	**$0**	**$0**	**$164,474**
Total	**$0**	**$6,629,558**	**$97,550,749**	**$26,840,353**	**$12,289,071**	**$143,309,730**

Source: Wilbur Smith Associates, 2007
Note: 1: Terminal area costs include terminal buildings, aprons, hangars, fuel, auto parking spaces, access road improvements, and miscellaneous utilities.
2: Fencing construction and/or upgrade costs could not be determined without on-site inspection and therefore have not been included in the totals above.

Table 7-7 identifies total developments costs by airport system performances measure as analyzed in chapter five of the UCASP. Among the costs identified, the largest share is for projects to upgrade airports to accommodate business jets. However, many of the performance measure categories contain duplicative projects. For example, many of the runway extension and runway strengthening projects are needed for airports to meet several performance measures such as accommodating very light jets (VLJ's) or business jets.

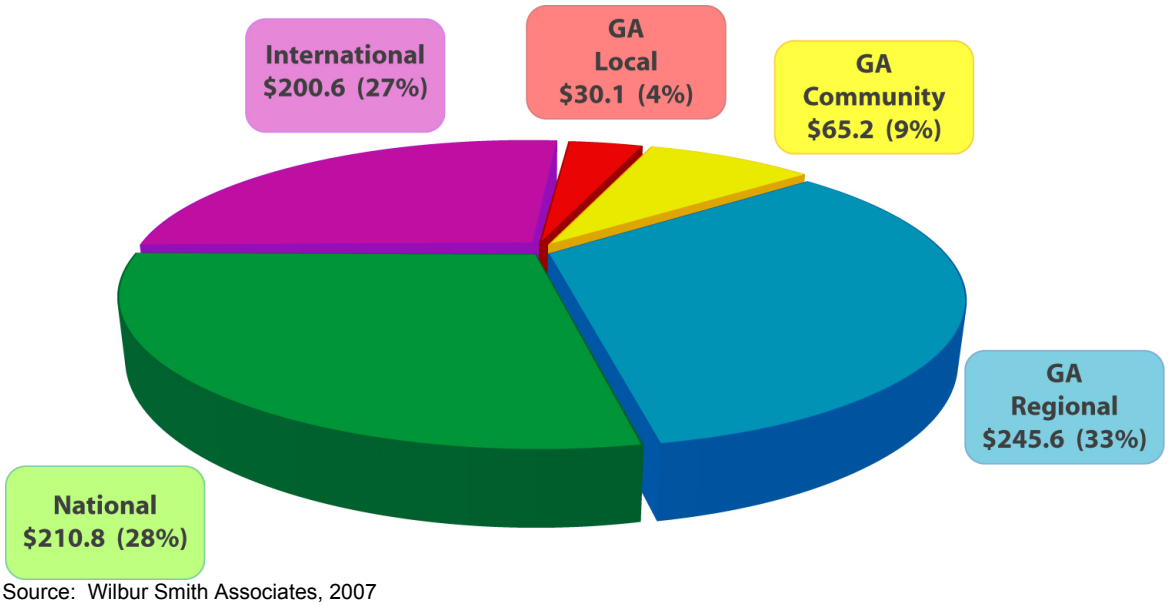
Table 7-7
Total Development Costs by Performance Measure and Airport Classification

PERFORMANCE MEASURE	ESTIMATED COST					
	INTERNATIONAL AIRPORTS	NATIONAL AIRPORTS	GA REGIONAL AIRPORTS	GA COMMUNITY AIRPORTS	GA LOCAL AIRPORTS	TOTAL
VLJ Projects	$0	$0	$1,098,619	$3,970,486	$0	$5,069,105
Emergency Air Medical Service Projects	$0	$0	$307,500	$4,048,611	$0	$4,356,111
Business Jet Projects	$0	$190,000,000	$19,104,194	$0	$0	$209,104,194
Runway Extension Projects	$0	$0	$17,259,621	$6,652,960	$0	$23,912,581
Runway Strengthening Projects	$0	$0	$22,538,855	$3,437,500	$0	$25,976,355
Taxiway Projects	$0	$3,421,053	$5,394,736	$2,224,426	$0	$11,040,215

Source: Wilbur Smith Associates, 2007

Exhibit 7-1 summarizes the estimated 20-year costs by airport role. As shown in Exhibit 7-1, 87 percent of these costs relate to raising the level of performance for International, National and GA Regional Airports in Utah (27, 28, and 33 percent respectively). The remaining 13 percent (9 and 4 percent) is needed to raise the level of performance of Community and Local Airports. It should be noted that $190 million of the National Airport costs are for the construction of the new St. George airport.

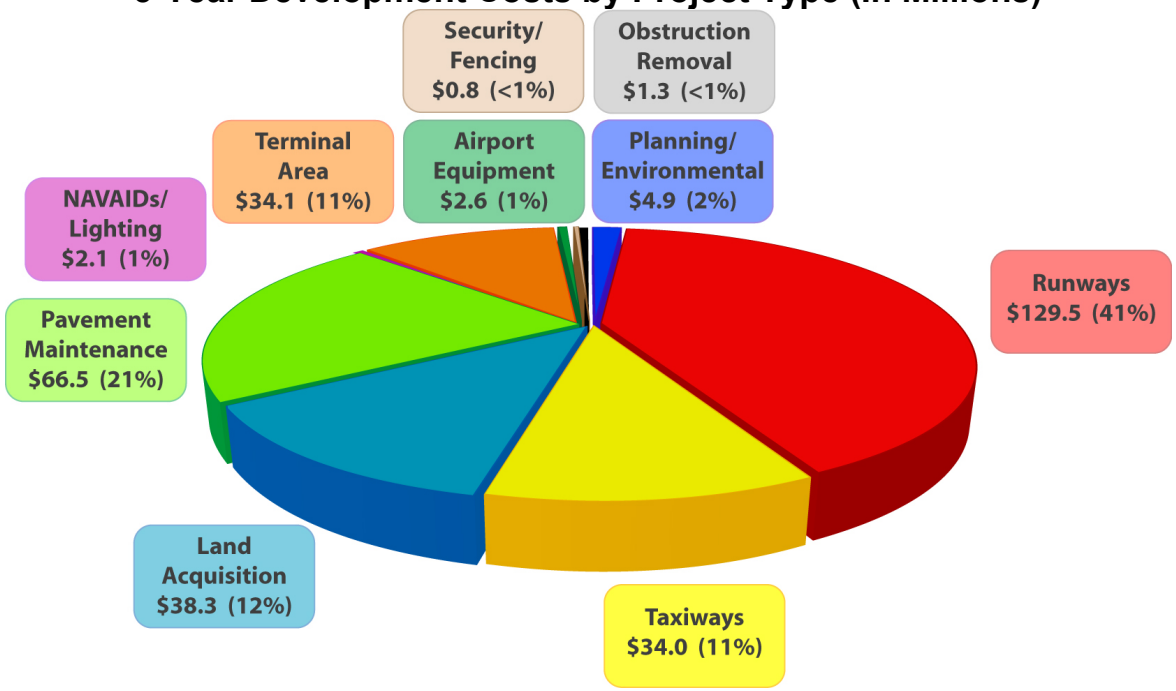
Exhibit 7-1
20-Year Development Costs by Airport Role (In Millions)



Source: Wilbur Smith Associates, 2007

Exhibit 7-2 reflects short-term (5-year) development costs by project type. Runways and pavement maintenance costs account for 41 and 21 percent, respectively, of the 5-year costs. Terminal area related projects account for 11 percent of the total estimated development costs. The remaining 27 percent of the $314 million short-term development costs include NAVAIDs/lighting, airport equipment, security/fencing, planning/environmental, taxiways, land acquisition, and obstruction removal projects. It should be noted that $95 million of the funding identified for runway improvements is for construction of the new St. George airport.

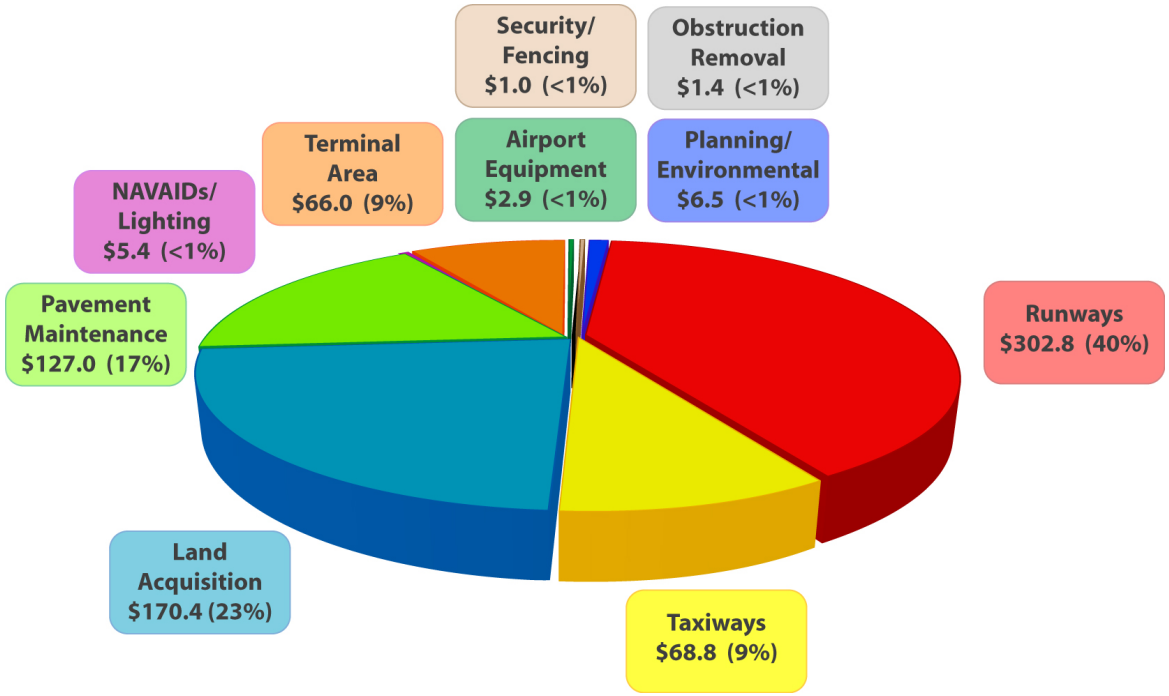
Exhibit 7-2
5-Year Development Costs by Project Type (In Millions)



Source: Wilbur Smith Associates, 2007

Total development costs expected over the next 20 years are shown in **Exhibit 7-3** by project type. Approximately 98 percent of total development costs are anticipated for airside development projects including runways, taxiway, aprons and pavement maintenance at system airports in Utah. Also worth noting is that $190 million of the funds identified for runway improvements is related to construction of the new St. George airport.

Exhibit 7-3
20-Year Development Costs by Project Type (In Millions)



Source: Wilbur Smith Associates, 2007

POLICY ISSUES

The UCASP uses a strategic approach to identify and evaluate the needs of the Utah airport system over the next 20 years. In order for these identified needs to be met, goals and policies need to be established and implemented to support the findings of the UCASP. The following identifies policy issues that should be considered in the development and improvement of the Utah system of airports.

Development of the UCASP included identification of goals and associated performance measures to guide the development of the Utah airport system. It is recommended that the UCASP goals be supplemented by the following goals developed by UDOT to reflect consistency in transportation goals for the entire state:

- Take Care of What We Have
- Make the System Work Better
- Improve Safety
- Increase Capacity

Take Care of What We Have places a high priority on pavement maintenance. Conducting timely and appropriate maintenance of pavements has proven to be one of the most cost-effective ways to preserve airport pavements at an acceptable pavement condition index (PCI) level.

Make the System Work Better is accomplished by providing adequate airport facilities and services at each system airport to meet the needs of current and projected airport users. The UCASP identifies recommended facilities and services for each airport role category.

Improve Safety entails developing a safe and secure system of airports that meets state and FAA standards.

Increase Capacity is accomplished through zoning and land-use protection surrounding airports. The ability to increase airport capacity is directly influenced by surrounding land uses. Additionally, zoning around airports needs to provide for the possibility of future airport expansions. Increasing capacity can be difficult or impossible at airports surrounded by incompatible land uses and development.

The mission statement of the Utah Division of Aeronautics reads as follows:

> *Promote and foster aviation in Utah by providing safe and functional airport systems as an integral part of the statewide transportation program. Supply safe and efficient air transportation to state agencies and those conducting state business. Provide quality maintenance for state-owned aircraft. Be team oriented and sensitive to the needs of each individual in the organization and customers.*

The first portion of the mission statement relates directly to the goals established by UDOT described above and the recommendations of this plan. Further, it provides consistency between the existing mission and the findings of the UCASP.

Existing Guidelines and Recommendations

Existing guidelines followed by the UDOA include a policy of leveraging state funds to maximize federal airport development funds for Utah airports. This is accomplished through the Division's practice of assisting airport sponsors with the required matching funds for FAA airport improvement grants at eligible airports. Airports eligible for funding are those included in the FAA National Plan of Integrated Airport Systems (NPIAS) with the exception of the three Primary Commercial Service airports: Salt Lake City International, St. George and Wendover. The amount of funding provided by the UDOA

is on a sliding scale based on the total project cost. The Division provides assistance with matching funds only for FAA projects exceeding $600,000. The amount of state funding provided increases to a maximum of one-half of the required local match for FAA projects exceeding a total cost of $1.1 million. Eligible state funded projects are typically funded at 90 percent of the total project cost with the remaining 10 percent being the responsibility of the airport sponsor. The matching of federal grants receives the highest priority for state funds. After all eligible FAA grants have been matched, the remaining funds are utilized in support of the state grant program.

Project Priority Rating System

To assist in prioritizing the use of limited state funds, the UDOA has developed a project priority rating system. The following formula forms the basis of the UDOA project prioritization system:

Priority Rating = (Project Category + Project Item)*Y*Z

The formula is comprised of the following four components: Project Category, Project Item, Y and Z. Project Category is determined by the category of airport project requested, with pavement preservation projects, planning and projects needed to meet airport standards receiving the highest priority, particularly at airports with at least 25 based aircraft. Project Item is based on the type of airport improvement requested with projects associated airside development receiving priority. Y increases the priority of projects at airports with compatible land use plans in place. Z is a subjective measure ascribed by UDOA which takes into consideration the size of the project, how the project relates to other airport development items, the availability of federal funds, and economies of scale. **Table 7-8** provides additional detail on the UDOA project priority rating system.

Table 7-8
UDOA Project Priority Rating System

Project Category			
Based Aircraft	75 or more based Aircraft	25 to 74 Based Aircraft	Less than 25 Based Aircraft
Preservation[1]	10	10	7
Standards and Planning	10	10	5
Upgrade	9	8	4
Capacity	9	8	3
Project Items			
5	Primary runway and associated taxiways, Runway lighting and approaches		
4	Aprons, taxiway lighting, fencing and land acquisitions		
3	Paved secondary runways and associated taxiways		
	Planning and Weather reporting equipment (AWOS, Automated Unicom)		
2	Unpaved secondary runways and associated taxiways		
1	All other items		
Y			
1.15	Full zoning and compatible land use plans are in place for the entire Horizontal Surface		
1.1	Compatible land use plan in place but does not cover the entire Horizontal Surface		
1.0	Limited or no zoning in the Horizontal Surface		
Z Factor between 0 and 1.5 ascribed by the UDOA			
0 – 1.5	Project amount		
0 – 1.5	Use of Federal money		
0 – 1.5	Multiple projects		
0 – 1.5	Economies of scale		

Source: UDOA, Wilbur Smith Associates, 2007
Note: 1: Surface must be identified in the Airport Pavement Preservation Plan or the value is halved.

The guidelines utilized by the UDOA to prioritize airport development projects closely follow the priorities set forth by the FAA. By funding high priority FAA projects, the state better positions itself to compete nationally for additional FAA discretionary funds. This enables to Division to further leverage state airport development funds.

It is recommended that the UDOA consider including the airport role classification identified in this plan in the project prioritization process. Airports in higher role classifications typically serve greater numbers of users, thus projects at these airports are better able to raise the performance level of the airport system.

To protect the significant taxpayer investment that has been made in the state's airport system, it is recommended that priority consideration be given to projects that upgrade or increase airport capacity at airports with surrounding compatible land uses and

protective zoning in place. Airports not meeting these conditions should be maintained in their present condition, with an emphasis on working with those airports to implement compatible land use and protective zoning. Funding of land acquisition or other projects to promote airport compatibility with the surrounding area should be given a high priority after maintenance.

FUNDING SOURCES

Funding for airport improvement projects is an important issue when considering the future of Utah's aviation system. In order to meet user needs, airports typically rely on funding sources beyond their own revenue. The ability of individual airport sponsors to identify funding sources and to successfully obtain funding directly influences development.

There are various sources of funding available to airports in Utah. It is important to note that each year funding needs exceed funds available. In general, funding for capital improvement projects can be secured from the following sources: federal, state, local, or private funds. Implementation of the recommendations presented in the UCASP will require significant commitment on the part of all funding sources. A brief description of each funding source is presented in the following sections.

Federal Funding Sources and VISION-100

The FAA, through the Airport Improvement Plan (AIP), distributes federal funds back to the nation's public airport system from the Airport and Airway Trust Fund. The Airport and Airway Trust Fund was originally established in 1970 and has since been amended on numerous occasions. The fund, supplied by money collected only from the users of the nation's airport system, is used to fund airport improvements. Only airports in the NPIAS are eligible to apply for FAA funding. Of the 47 public-use airports in Utah, 34 are currently included in the NPIAS and are eligible to apply for federal funding. Utah's five commercial airports and 29 of the 42 general aviation airports are included in the NPIAS. The UCASP recommends that one additional airport be included in the NPIAS to meet the needs of a fast growing population and tourism industry in the southwest portion of the state. This new NPIAS airports would then be eligible to apply for FAA funding.

In 2007, AIP provided $3.5 billion in funding to eligible NPIAS airports in the United States. **Table 7-9** presents total AIP funding for all eligible U.S. airports for fiscal years 2000 through 2007.

Table 7-9
U.S. Historical AIP Funding (Billions)

	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
Total AIP Funding	$1.85	$3.20	$3.30	$3.40	$3.40	$3.50	$3.60	$3.5*

Source: FAA Airports Financial Assistance Division, 2007
* Estimated from FAA Annual Report on Accomplishments.

VISION-100 was signed into law in December 2003 and reauthorized the AIP program through 2007. VISION-100 contained a number of significant changes from the AIP budget authorizations undertaken in conjunction with the development of the Aviation Trust Fund. The four main changes to the 2003 authorization were:

- Non-primary entitlement funds can be accumulated for up to four years, instead of three.
- Federal portion of the AIP eligible projects increased from 90 percent to 95 percent.
- If no airside improvement projects are needed, AIP funds can be used for items such as fuel farms, aircraft hangars, and general aviation terminals.
- Airports may choose to waive their entitlement funds, and FAA can reallocate those funds to airports in the same geographical area or state.

Commercial service airports receive entitlement funds based on the number of passengers they enplane during the prior calendar year. The minimum passenger entitlement funding for Primary Commercial Service Airports (those airports enplaning at least 10,000 passengers per year) is $1 million. Commercial service airports may also receive cargo entitlement funding based on the landed weight of cargo aircraft.

General aviation airports included in the NPIAS are eligible for state apportionment funds and non-primary entitlement funds. State apportionment funds are allocated to states based on a formula using the size and population of the state. Those funds are distributed to airports based on FAA prioritization of projects. General aviation airports are currently eligible for up to $150,000 in non-primary entitlement funds. To obtain these funds, airports must have a 5-Year CIP with eligible projects that meet AIP justification guidelines.

General aviation and commercial service airports compete for federal discretionary funds. These funds are awarded based on priority ratings given to each potential project by the FAA. The prioritization process ensures that the most important and beneficial projects (as viewed by the FAA) are the first to be completed, given the availability of adequate discretionary funds. Federal funding is limited to development that is justified to meet aviation demand according to FAA guidelines. Each airport development project, including those recommended in the UCASP, will be subject to eligibility and justification requirements as part of the normal AIP funding process.

As of the writing of this document, the AIP program is up for reauthorization and will likely see changes. The future of the AIP program may include changes to federal share amounts, non-primary entitlements, set-asides, and/or passenger facility charges (PFCs).

State Funding

The UDOA administers state programs for funding airport planning, construction, and maintenance projects. The Division establishes the overall policy and procedures for the development and funding of capital improvements with the project prioritization system discussed previously. The primary source of funding utilized by the Division is generated by aviation fuel taxes and registration fees on aircraft based in Utah. The revenue generated from these taxes and fees are deposited into a restricted account from which funds are appropriated annually by the Utah Legislature. **Table 7-10** identifies the mount of total federal and state funds that have been utilized in Utah for airport improvements. Also shown is the portion of federal funds the have been allocated for improvements at the states GA airports. It should be noted that over half of the federal funds allocated to Utah were directed towards capital improvements at Salt Lake City International Airport. State funding has traditionally not been requested for improvements at Salt Lake City International Airport.

Table 7-10
Historical Aviation Funding In Utah

	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
Total Federal Funds	$37,862,391	$24,742,227	$34,416,204	$35,543,028	$45,598,101
Federal Funds for GA Airports	$10,358,927	$10,867,035	$16,304,463	$19,875,855	$16,147,011
State Funds	$2,005,717	$3,122,996	$1,322,547	$2,497,490	$2,702,451
Total	**$39,858,108**	**$27,865,223**	**$35,738,851**	**$38,040,518**	**$48,300,552**

Source: UDOA, Wilbur Smith Associates, 2007

Local Funding

Local public airport sponsors such as counties, cities, and airport authorities are responsible for costs associated with airport development projects that remain after federal and state shares have been applied. Historically in Utah, the local share of federally funded projects has been 5 percent after the 95 percent federal share was applied. For state-only funded projects, the local share is typically 10 percent.

Local government funding for airport development projects is derived from the following sources:

- Local General Fund Revenues
- Bond Issues
- Airport-Generated Revenues
- Private Funding

Of these, general fund revenues and general obligation bonds are by far the most common funding sources. Revenue bonds supported by airport-generated revenues are seldom used because most general aviation airports do not earn enough money to pay operating expenses plus the debt service of capital funding requirements.

Private and Other Funding

Additional sources of revenue and assistance occasionally used at general aviation airports to fund or finance airport improvements are listed below. These funds are sometimes generated through public agencies in the form of donations, grants, leases, or other means such as:

- Private/Commercial Financing
- State rural/industrial bonds
- Residence lease/rental
- Bank loans
- Business license tax
- Sale of land for commercial purposes
- Display/advertisement rental

Money from private sources has traditionally been used to construct hangar facilities, terminal buildings, install pilot equipment, and in some instances, has supported costs associated with runway and taxiway maintenance and repair projects. Private financing is common at general aviation airports that serve diverse proprietary needs, or are beyond the financial resources of the airport sponsor.

FUNDING NEEDS

Over the next 20 years, the approximate annual average cost to raise the level of performance of airports throughout Utah excluding Salt Lake International would be at least $26.6 million. Historically, when federal, state, and local funding sources are all considered, each year an average of approximately $17 million has been invested in the Utah airport system, excluding Salt Lake International. This average annual amount is approximately $9.6 million below the average annual amount identified for airport maintenance and improvements. Based on historic funding levels, a total estimated funding shortfall over the next 20 years of $193 million could be expected.

The UCASP has identified costs that are needed to elevate the overall performance of Utah's aviation system and enable individual airports in the system to fulfill their assigned role in the aviation system. The importance of Utah's airports to the economies of the state, cities, and counties is undeniable. The system must be maintained and justifiably expanded not only to meet the needs of the aviation community but also the economic objectives of the state.

ADDITIONAL RECOMMENDATIONS/CONTINUOUS PLANNING

The final section of this report identifies steps for evaluating progress of the system and providing sustainable planning. The UDOA should plan to revisit the findings of the UCASP at regular intervals. Monitoring performance over time will identify gaps and assist in developing strategies to meet the ongoing needs of the aviation system. As the system is monitored, further refinement to airport categories, as assigned in this plan, may be warranted.

In their advisory circular on aviation system planning, the FAA recognizes the need for continuous planning as part of an effective system planning process. Continuous system planning is typically comprised of the following five elements:

- Surveillance
- Reappraisal
- Service and Coordination
- Special Studies
- Updates

These five continuous planning elements, as they relate to the UCASP, are discussed in the following subsections.

Surveillance

Aviation is a dynamic and fluid industry, one that is constantly changing. As aviation changes, the system of airports supporting aviation demand will also continue to change. As part of the continuous planning process, surveillance is recommended as it relates to the demand components and to the facilities/services of the airports.

As part of the UCASP, data on a number of factors for system airports have been assembled. These include statistics on the number of aircraft based at each airport in the system and total annual aircraft takeoffs and landings at each airport. As part of the continuous planning effort, the following actions should be considered:

Activity Indicators

- The UCASP contains data on total annual operations and based aircraft that have been assembled and documented to establish an informational database. For total annual operations, the Division has conducted “counts” using an acoustical counter system to estimate operational activity levels at each airport. During annual airport inspections conducted by the Division of Aeronautics, information on total based aircraft and annual operational levels should be updated. For consistency, collecting this updated information should occur at the same time each year.

- Follow-on activities for system airports on their specific operating fleets are also desirable. The future planning and development of all airports in the system is largely contingent on the specific types of aircraft operating at these airports. Ideally, the UDOA should work with and encourage system airports to keep an operational log, especially for transient (visitor) aircraft. Each airport's planning and development guidelines are determined by the most demanding/critical aircraft that operates at the airport on a regular basis. The FAA defines "regular basis" as being 500 total operations, or 250 landings and takeoffs per year. Each airport's airport reference code (ARC) is determined by its critical aircraft. Logs and photo journals on the types of aircraft operating at each airport and the frequency of their operations are important to establishing ARCs for all system airports. Therefore, this action is recommended as part of the continuous planning process.

Facilities/Services

- Airports within the Utah system will continue to develop between the completion of this update of the UCASP and the next update in five to seven years. System airports should be asked to provide the UDOA with a summary of major facility enhancements that are accomplished following the conclusion of this plan. Facilities that should be included in this reporting process include runways (new and extended), taxiway improvements (in particular how they relate to new, upgraded, or lengthened parallel taxiways), airfield lighting and approach aids, weather reporting facilities, and aircraft hangars.

Specific service-related guidelines were also established in the UCASP, including provision of fuel and terminal or pilot facilities. Funding of airport service-related items at system airports including fixed base operators (FBOs), hangars, fueling facilities, terminal or pilots lounges, restrooms, and ground transportation is often difficult. These projects typically receive a lower priority or are not eligible for state and/or FAA funding. However, providing these services is essential for most airports to attract and retain both local and transient users, thereby allowing the airport to become financially self-sufficient. The cost of providing many of these service-related items is relatively low when compared to other airport development costs and can provide a high return on investment. Providing these services greatly increases the utility of an airport which typically increases an airports level of activity. Should the usage of general aviation business aircraft including very light jets (VLJ's) continue to increase as projected, airports in Utah should be prepared to provide the facilities and services these airport users will require for airport usage.

The UCASP has been accomplished using a performance-based approach to evaluate the state's airport system. The major output of this approach is a system "report card" identifying deficiencies within the airport system. This report card provides sustainability to the planning process. As part of the continuous planning effort, the system report card can be updated if UDOA is able to refresh system data and information.

Reappraisal

Airports in the system will continue to grow, and as they grow, conclusions drawn as part of this plan may need to be reevaluated. As part of its follow-on activities, UDOA should contact system airports at least annually to determine any changes or potential changes to each airport's ability to meet identified facility and service objectives.

Service and Coordination

As part of the continuous planning process, there are appropriate follow-on coordination and communication activities. Some of these activities are between UDOA and the system airports; some are between UDOA and the FAA; while others are between the airports and UDOA/FAA. Continuous planning efforts may be summarized as follows:

- **Implementation Priorities** – As system airports proceed with their individual development and planning, consideration should be given to projects needed to move the system toward target objectives established in the UCASP. Particular emphasis should be placed on projects needed to meet the performance measures.

- **Security Issues** – It is recommended that UDOA continue the process of encouraging system airports to take appropriate security measures. The Transportation Security Administration (TSA) continues to examine and establish new security guidelines and requirements for the nation's commercial service and general aviation airports. As these security measures are formulated, follow-on efforts to ensure that the system airports are in compliance with both state and federal security guidelines may be required.

- **Compatible Land Use** – It is recommended that UDOA continue to emphasize compatible land uses and protective zoning around airports. In an effort to protect the investment that has been made in the state airport system, it is recommended that the Division consider upgrading those airports with protective zoning in place. Facilities at airports without protective zoning should be considered for maintenance only until such time that protective zoning can be implemented to ensure the long-term viability of the state and federal investment in airport facilities.

- **Airspace Issues** – Airspace along the Wasatch Front is impacted by limited radar coverage due to mountainous terrain and growing air traffic. The area stretching from Brigham City in the north to Spanish Fork in the south is densely populated and includes the busiest airports in the state: Salt Lake City International, Hill AFB, Provo Municipal, Ogden-Hinckley and Salt Lake City #2. The airspace in this region is used by a wide variety of aircraft ranging from gliders and helicopters to large commercial aircraft and high-speed military jet

fighters. Coordination between air traffic control facilities using the airspace will be increasingly important as air traffic continues to grow.

Controlling facilities include:

Federal Aviation Administration (FAA):
Salt Lake International Airport Air Traffic Control Tower.
Salt Lake Terminal Radar Approach Control.
Salt Lake Center.
Ogden-Hinckley Airport Air Traffic Control Tower.
Provo Municipal Airport Air Traffic Control Tower.

Military:
Hill Air Force Base Air Traffic Control Tower.
Clover Range Control.

The terminal airspace around Salt Lake City is primarily served by a single radar unit located at the Salt Lake City International Airport. The design of Northern Utah's airspace is based upon the limited coverage of this unit as mountainous terrain blocks much of the radar's signal resulting in large areas of airspace that Air Traffic Control is "blind" to. The largest blind spot identified by the FAA is primarily over the Utah Valley area.

The FAA is currently in the process of redesigning the national airspace system, employing new satellite based technology (ADS-B) and developing procedures to allow the national airspace system to function more efficiently. Mountainous terrain does not affect the service area of ADS-B but its implementation isn't expected for at least fifteen years. Until then, it's recommended that the State of Utah and airport sponsors within the Salt Lake City terminal airspace area work closely with the FAA to implement available technology and procedures to improve the safety, capacity and utilization of the airspace in the region, especially over the Utah Valley area.

Updates

As part of the continuous planning process, two types of updates are appropriate. These are updates to individual airport master plans and airport layout plans, and an update to the UCASP.

- **Master Plans and Airport Layout Plans** – It is desirable for all airports to have current master plans and airport layout plans. It is recommended that each of the airports in Utah update their master plans or airport layout plans every 10 years, or as conditions warrant.

- **Utah Continuous Airport System Plan** – The system plan provides UDOA with a blueprint for the development of the airport system. As the aviation industry changes and the state's socio-economic and demographic characteristics evolve, the system plan should again be updated. It is recommended that UDOA consider updating the system plan in 10-year intervals with the next update in the 2017-2018 timeframe.

SUMMARY

Airports in Utah are critical transportation and economic resources. For communities throughout Utah, airports are important economic catalysts that, combined with other factors, can make the difference between a community experiencing growth or decline. By responding to performance measures and facility/service objectives outlined in this update to the UCASP, Utah will have a plan that will help guide the state airport system through the next 20 years.